Title (en)

HIGH STRENGTH ALUMINIUM ALLOYS FOR AIRCRAFT WHEEL AND BRAKE COMPONENTS

Title (de)

HOCHFESTE ALUMINIUMLEGIERUNGEN FÜR FLUGZEUGRAD UND BREMSELEMENTE

Title (fr)

ALLIAGES D'ALUMINIUM À HAUTE RÉSISTANCE MÉCANIQUE POUR ROUE D' AÉRONEF ET COMPOSANTS DE FREIN

Publication

EP 1726671 A2 20061129 (EN)

Application

EP 06252726 A 20060525

Priority

- US 68452905 P 20050526
- US 36040306 A 20060224

Abstract (en)

An iron-containing heat-resistant aluminum-based alloy product consisting essentially of, in weight percent: up to 0.15% chromium, 0.80-1.20% copper, 0.80-1.20% iron, 2.20-2.80% magnesium, up to 0.10% manganese, 0.80-1.20% nickel, up to 0.15% silicon, up to 0.15% titanium, 5.50-7.00% zinc, up to 0.25% zirconium, and up to 0.25% scandium, with the balance being aluminum. Also, a manganese-containing heat-resistant aluminum-based alloy product consisting essentially of, in weight percent: up to 0.25% chromium, 0.80-1.20% copper, up to 0.30% iron, 2.30-2.90% magnesium, 2.70-3.10% manganese, 2.85-3.25% nickel, up to 0.15% silicon, up to 0.15% titanium, 6.10-7.10% zinc, up to 0.25% zirconium, and up to 0.25% scandium, with the balance being aluminum. A spray-formed billet of the alloy is prepared by: charging aluminum and the other elements that are to make up the alloy into a crucible; melting the elements in the crucible to form the alloy; pouring the melted alloy through an atomizer to atomize the alloy in a spray chamber; and depositing the atomized alloy onto a collector disc at the bottom of the spray chamber to form the desired spray-formed billet. The billet can then be forged into a shaped product, such as an aircraft inboard main wheel half.

IPC 8 full level

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CPC (source: EP US)

C22C 1/0416 (2013.01 - EP US); **C22C 21/10** (2013.01 - EP US); B22F 2998/10 (2013.01 - EP US)

Cited by

CN107675112A; EP2239071A3; CN106191603A; RU2691475C1; DE102010061959A1; CN106756293A; RU2610578C1; WO2017058052A1

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